# Setup

The following steps will create a python 3.4 environment for the tomcat user. These should be run just one time.

## Log as tomcat:

sudo su - tomcat

## Download and install Miniconda installer:

curl -O https://repo.continuum.io/miniconda/Miniconda3-latest-Linux-x86\_64.sh

chmod u+x Miniconda3-latest-Linux-x86\_64.sh

./Miniconda3-latest-Linux-x86\_64.sh

* Approve license terms.
* Install to /home/tomcat/miniconda3
* Do NOT prepend the Miniconda3 install location to PATH in your /home/tomcat/.bashrc

## Add miniconda/bin to the PATH

export PATH=/home/tomcat/miniconda3/bin:$PATH

## Create python environment called nacenv

conda create -n nacenv python

## Activate the nacenv environment

source activate nacenv

## Install the boto library

pip install boto

## Extract scripts

Extract verification scripts in file ebs to s3 verification scripts.zip to directory /opt/vol/ebstos3verification/

# Remove unused EBS directories

Execute these commands:

cd /opt/vol/opastorage/live/25/5956/7595625/content/dc-metro/rg-237/7419198-9-11-faa/

rm -rf "1. AAL 77"

cd /opt/vol/opastorage/live/25/5967/7596725/content/dc-metro/rg-237/7419198-9-11-faa/

rm -rf "2. UAL 93"

cd /opt/vol/opastorage/live/26/5988/7598826/content/dc-metro/rg-237/7419198-9-11-faa/

rm -rf "5. Miscellaneous"

cd /opt/vol/opastorage/live/27/5957/7595727/content/dc-metro/rg-237/7419198-9-11-faa/

rm -rf "1. AAL 77"

cd /opt/vol/opastorage/live/31/5967/7596731/content/dc-metro/rg-237/7419198-9-11-faa/

rm -rf "2. UAL 93"

cd /opt/vol/opastorage/live/31/5989/7598931/content/dc-metro/rg-237/7419198-9-11-faa/

rm -rf "5. Miscellaneous"

cd /opt/vol/opastorage/live/41/5957/7595741/content/dc-metro/rg-237/7419198-9-11-faa/

rm -rf "1. AAL 77"

cd /opt/vol/opastorage/live/55/5956/7595655/content/dc-metro/rg-237/7419198-9-11-faa/

rm -rf "1. AAL 77"

cd /opt/vol/opastorage/live/55/5967/7596755/content/dc-metro/rg-237/7419198-9-11-faa/

rm -rf "2. UAL 93"

cd /opt/vol/opastorage/live/97/5955/7595597/content/dc-metro/rg-237/7419198-9-11-faa/

rm -rf "1. AAL 77"

# OpaStorage Verification

## Before Running Scripts

Execute the following commands to activate python 3.4

export PATH=/home/tomcat/miniconda3/bin:$PATH

source activate nacenv

## Get checksums for files in EBS

Execute these commands:

nohup sh -c 'for index in {0..9}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/opastorage/live/$index > /opt/vol/$index.ebs.txt; done' &

nohup sh -c 'for index in {10..19}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/opastorage/live/$index > /opt/vol/$index.ebs.txt; done' &

nohup sh -c 'for index in {20..29}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/opastorage/live/$index > /opt/vol/$index.ebs.txt; done' &

nohup sh -c 'for index in {30..39}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/opastorage/live/$index > /opt/vol/$index.ebs.txt; done' &

nohup sh -c 'for index in {40..49}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/opastorage/live/$index > /opt/vol/$index.ebs.txt; done' &

nohup sh -c 'for index in {50..59}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/opastorage/live/$index > /opt/vol/$index.ebs.txt; done' &

nohup sh -c 'for index in {60..69}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/opastorage/live/$index > /opt/vol/$index.ebs.txt; done' &

nohup sh -c 'for index in {70..79}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/opastorage/live/$index > /opt/vol/$index.ebs.txt; done' &

nohup sh -c 'for index in {80..89}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/opastorage/live/$index > /opt/vol/$index.ebs.txt; done' &

nohup sh -c 'for index in {90..99}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/opastorage/live/$index > /opt/vol/$index.ebs.txt; done' &

## Get checksums for files in S3

Execute these commands:

nohup sh -c 'for index in {0..9}; do python /opt/vol/ebstos3verification/list\_s3\_dir.py opastorage/live/$index/ > /opt/vol/$index.s3.txt; done' &

nohup sh -c 'for index in {10..19}; do python /opt/vol/ebstos3verification/list\_s3\_dir.py opastorage/live/$index/ > /opt/vol/$index.s3.txt; done' &

nohup sh -c 'for index in {20..29}; do python /opt/vol/ebstos3verification/list\_s3\_dir.py opastorage/live/$index/ > /opt/vol/$index.s3.txt; done' &

nohup sh -c 'for index in {30..39}; do python /opt/vol/ebstos3verification/list\_s3\_dir.py opastorage/live/$index/ > /opt/vol/$index.s3.txt; done' &

nohup sh -c 'for index in {40..49}; do python /opt/vol/ebstos3verification/list\_s3\_dir.py opastorage/live/$index/ > /opt/vol/$index.s3.txt; done' &

nohup sh -c 'for index in {50..59}; do python /opt/vol/ebstos3verification/list\_s3\_dir.py opastorage/live/$index/ > /opt/vol/$index.s3.txt; done' &

nohup sh -c 'for index in {60..69}; do python /opt/vol/ebstos3verification/list\_s3\_dir.py opastorage/live/$index/ > /opt/vol/$index.s3.txt; done' &

nohup sh -c 'for index in {70..79}; do python /opt/vol/ebstos3verification/list\_s3\_dir.py opastorage/live/$index/ > /opt/vol/$index.s3.txt; done' &

nohup sh -c 'for index in {80..89}; do python /opt/vol/ebstos3verification/list\_s3\_dir.py opastorage/live/$index/ > /opt/vol/$index.s3.txt; done' &

nohup sh -c 'for index in {90..99}; do python /opt/vol/ebstos3verification/list\_s3\_dir.py opastorage/live/$index/ > /opt/vol/$index.s3.txt; done' &

## Verify that files have same checksums in EBS and S3

Execute these commands:

nohup sh -c 'for index in {0..24}; do python /opt/vol/ebstos3verification/verify\_checksums.py /opt/vol/$index.ebs.txt /opt/vol/$index.s3.txt > /opt/vol/$index.results.txt; done' &

nohup sh -c 'for index in {25..49}; do python /opt/vol/ebstos3verification/verify\_checksums.py /opt/vol/$index.ebs.txt /opt/vol/$index.s3.txt > /opt/vol/$index.results.txt; done' &

nohup sh -c 'for index in {50..74}; do python /opt/vol/ebstos3verification/verify\_checksums.py /opt/vol/$index.ebs.txt /opt/vol/$index.s3.txt > /opt/vol/$index.results.txt; done' &

nohup sh -c 'for index in {75..99}; do python /opt/vol/ebstos3verification/verify\_checksums.py /opt/vol/$index.ebs.txt /opt/vol/$index.s3.txt > /opt/vol/$index.results.txt; done' &

## Create verification report

Execute this command:

for index in {0..99}; do

echo Directory $index

echo EBS files: `wc -l /opt/vol/$index.ebs.txt | cut -f1 -d' '`

echo S3 files: `wc -l /opt/vol/$index.s3.txt | cut -f1 -d' '`

echo Equal files in EBS and S3: `grep equal /opt/vol/$index.results.txt | wc -l`

echo ----------------------------------------

done > /opt/vol/opastorage\_verification\_report.txt

## Report any files that were not copied to S3

Execute this command:

nohup sh -c 'for index in {0..99}; do grep "EBS file not found in S3:" /opt/vol/$index.results.txt | cut -f8 -d" "; done > /opt/vol/opastorage\_files\_not\_copied\_to\_s3.txt' &

## Copy missing files to S3

Execute this command:

cat /opt/vol/opastorage\_files\_not\_copied\_to\_s3.txt

ls -lh `cat /opt/vol/opastorage\_files\_not\_copied\_to\_s3.txt`

If there are missing files, execute this command:

nohup python /opt/vol/ebstos3verification/copy\_to\_s3.py /opt/vol/ opastorage\_files\_not\_copied\_to\_s3.txt public-read > /opt/vol/files\_copied\_to\_s3.txt &

# XmlStore Verification

## Get checksums of EBS files

Execute these commands:

nohup sh -c 'for index in {0..24}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/xmlstore/full/$index > /opt/vol/$index.ebs-xmlstore.txt; done' &

nohup sh -c 'for index in {25..49}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/xmlstore/full/$index > /opt/vol/$index.ebs-xmlstore.txt; done' &

nohup sh -c 'for index in {50..74}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/xmlstore/full/$index > /opt/vol/$index.ebs-xmlstore.txt; done' &

nohup sh -c 'for index in {75..99}; do python /opt/vol/ebstos3verification/list\_ebs\_dir.py /opt/vol/xmlstore/full/$index > /opt/vol/$index.ebs-xmlstore.txt; done' &

## Get checksums of S3 files

Execute this command:

nohup sh -c 'for index in {0..99}; do python /opt/vol/ebstos3verification/list\_s3\_dir.py xmlstore/full/$index/ > /opt/vol/$index.s3-xmlstore.txt; done' &

## Verify that files have same checksums in EBS and S3

Execute this command:

nohup sh -c 'for index in {0..99}; do python /opt/vol/ebstos3verification/verify\_checksums.py /opt/vol/$index.ebs-xmlstore.txt /opt/vol/$index.s3-xmlstore.txt > /opt/vol/$index.xmlstore-results.txt; done' &

## Create verification report

Execute this command:

for index in {0..99}; do

echo Directory $index

echo EBS files: `wc -l /opt/vol/$index.ebs-xmlstore.txt | cut -f1 -d' '`

echo S3 files: `wc -l /opt/vol/$index.s3-xmlstore.txt | cut -f1 -d' '`

echo Equal files in EBS and S3: `grep equal /opt/vol/$index.xmlstore-results.txt | wc -l`

echo ----------------------------------------

done > /opt/vol/xmlstore\_files\_equal.txt

## Report any files that were not copied to S3

Execute this command:

nohup sh -c 'for index in {0..99}; do grep "EBS file not found in S3:" /opt/vol/$index.xmlstore-results.txt | cut -f8 -d" "; done > /opt/vol/xmlstore\_files\_not\_copied\_to\_s3.txt' &

## Copy missing files to S3

Execute this command:

cat /opt/vol/xmlstore\_files\_not\_copied\_to\_s3.txt

ls -lh `cat /opt/vol/xmlstore\_files\_not\_copied\_to\_s3.txt`

If there are missing files, execute this command:

nohup python /opt/vol/ebstos3verification/copy\_to\_s3.py /opt/vol/ xmlstore\_files\_not\_copied\_to\_s3.txt > /opt/vol/xmlstore\_files\_copied\_to\_s3.txt &